

**WE CLAIM AS OUR INVENTION:**

1. A method for operating an x-ray arrangement to compensate for scattered radiation, said x-ray arrangement comprising a first x-ray system having a first x-ray source and a first x-ray detector and a second x-ray system having a second x-ray source and a second x-ray detector, said method comprising the steps of:

with said first and second x-ray systems in a specified position relative to each other, irradiating a subject with x-rays from said first x-ray source, and thereby producing scattered radiation, and detecting said scattered radiation with the second x-ray detector with said second x-ray source being unactivated, thereby obtaining a scattered radiation image from said second x-ray detector;

saving said scattered radiation image; and

operating both of said first and second x-ray systems to obtain x-ray diagnostic images of said subject and subtracting said scattered radiation image from the diagnostic images obtained from said second x-ray system.

2. A method as claimed in claim 1 comprising the additional steps of:

with said first and second x-ray systems in said specified position, irradiating said subject with x-rays from said second x-ray source, thereby producing further scattered radiation, and

detecting said further scattered radiation with said first x-ray detector with said first x-ray source being unactivated, and thereby obtaining a further scattered radiation image;

saving said further scattered radiation image; and

subtracting said further scattered radiation image, said diagnostic images obtained with said first x-ray system.

3. A method as claimed in claim 1 comprising obtaining said scattered radiation image using a first x-ray dose and obtaining said diagnostic images using a second x-ray dose, different from said first x-ray dose, and scaling said scattered radiation image, prior to subtraction from said diagnostic images, dependent on a relationship between said first x-ray dose and said second x-ray dose.

4. A method as claimed in claim 1 comprising obtaining a plurality of scattered radiation images with said first x-ray source and said second radiation detector, averaging said plurality of scattered radiation images to obtain an average scattered radiation image, and subtracting said average scattered radiation image from said diagnostic images.

5. An x-ray arrangement comprising:

a first x-ray system having a first x-ray source and a first x-ray detector;

a second x-ray system having a second x-ray source and a second x-ray detector;

a control unit for activating said first x-ray source, with said second x-ray source unactivated, to irradiate a subject with x-rays with said first and second x-ray systems in a specified position relative to each other, and thereby producing scattered radiation which is detected by the second x-ray detector, thereby obtaining a scattered radiation image from said second x-ray detector;

a memory in which said scattered radiation image is stored; and  
said control unit operating both of said first and second x-ray systems to obtain x-ray diagnostic images of said subject and subtracting said scattered radiation image from the diagnostic images obtained from said second x-ray system to components for said scattered radiation therein.

6. An x-ray arrangement as claimed in claim 5 wherein the control unit with said first and second x-ray systems in said specified position, activates said second x-ray source, with said first x-ray source unactivated, to irradiate the subject with x-rays, thereby producing further scattered radiation which is detected with said first x-ray detector, and thereby obtaining a further scattered radiation image, said further scattered radiation image being stored in said memory, and said control unit subtracting said further scattered radiation image, said diagnostic images obtained with said first x-ray system to compensate said further scattered radiation therein.

7. An x-ray arrangement as claimed in claim 5 wherein said control unit activates said first x-ray source to obtain said scattered radiation image using a first x-ray dose and activates at least said first x-ray source to obtain said diagnostic images using a second x-ray dose, different from said first x-ray dose, and scales said scattered radiation image, prior to subtraction from said diagnostic images, dependent on a relationship between said first x-ray dose and said second x-ray dose.

8. An x-ray arrangement as claimed in claim 5 wherein said control unit activates said first x-ray source to obtain a plurality of scattered radiation images with said first x-ray source and said second radiation detector, and averages said plurality of scattered radiation images to obtain an average scattered radiation image, and subtracts said average scattered radiation image from said diagnostic images.